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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/727,552      | 12/05/2003  | Ian Rippe            | 42339-198344        | 7984             |

26694 7590 03/02/2005

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| EXAMINER |
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NGUYEN, JOSEPH H

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| ART UNIT | PAPER NUMBER |
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2815

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/727,552 | <b>Applicant(s)</b><br>RIPPKE ET AL. |  |
|                              | <b>Examiner</b><br>Joseph Nguyen     | <b>Art Unit</b><br>2815              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 25-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☒ Claim(s) 25,27,30,31,33,34,36,37 and 39 is/are rejected.
- 7) ☒ Claim(s) 26,28,29,32,35 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25, 27, 30, 31, 33, 34, 36, 37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Sankaranarayanan et al.

Regarding claim 25, Sankaranarayanan et al. discloses on figure 1 a device comprising a layer of a first conductivity type 2 formed directly on a semiconductor substrate (readable on figure 1); a first transistor 4 disposed in the layer; a body contact region 6 disposed in the layer; and a resistance region 3 disposed in the layer between the first transistor and the body contact region, the resistance having a resistivity higher than a resistivity of the layer.

Note that the resistance region 3 is formed of silicon oxide (col. 4, lines 38-40), and the layer 2 is formed of n type epitaxial material (col. 4, lines 36-38). Therefore, the resistivity of the resistance region is higher than that of the layer.

Regarding claim 27, Sankaranarayanan et al. discloses on figure 1 the resistance region 3 substantially isolates the first transistor from the body contact region.

Regarding claim 30, Sankaranarayanan et al. discloses on figure 1 the layer 2 is an epitaxial layer (col. 4, lines 36-38).

Regarding claim 31, Sankaranarayanan et al. discloses on figure 1 the resistance region 3 has an impurity concentration lower than an impurity concentration of the layer 2 (col. 4, lines 36-40).

Regarding claim 33, Sankaranarayanan et al. discloses on figure 1 the resistance region 3 occupies substantially an entire cross sectional area of the layer 2 between the first transistor and the body contact region.

Regarding claim 34, Sankaranarayanan et al. discloses on figure 1 a device comprising an epitaxial layer 2 of a first conductivity type; a first transistor 4 disposed in the layer; a body contact region 6 disposed in the layer; and a resistance region 3 disposed in the layer between the first transistor and the body contact region, the resistance region having a resistivity higher than a resistivity of the layer.

Regarding claim 36, Sankaranarayanan et al. discloses on figure 1 a substrate (readable on figure 1), the epitaxial layer 2 being disposed on top of the substrate.

Regarding claim 37, Sankaranarayanan et al. discloses on figure 1 a device comprising a layer of a first conductivity type 2; a first transistor 4 disposed in the layer; a body contact region 6 disposed in the layer; and a resistance region 3 disposed in the layer between the first transistor and the body contact region, the resistance region having a resistivity higher than a resistivity of the layer, wherein the resistance region has an impurity concentration lower than an impurity concentration of the layer.

Regarding claim 39, Sankaranarayanan et al. discloses on figure 1 a substrate (readable on figure 1), the layer being disposed on top of the substrate.

***Allowable Subject Matter***

Claims 26, 28, 29, 32, 35 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-14 are allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications.

Art Unit: 2815

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN  
February 15, 2005



ALLAN R. WILSON  
PRIMARY EXAMINER